Amendments to the Claims

Claims 1-18 previously pending in the application are all **canceled herewith** and **replaced with new claims 19-38,** as follows:

Claims **1-18** (canceled).

Claim 19 (new) A method of creating a model of a low pressure compressor rotor for a gas turbine engine, comprising the steps of:

creating a knowledge base of information having a plurality of rules with respect to a corresponding plurality of parameters of associated elements of the low pressure compressor rotor, wherein the knowledge base comprises at least one data value for each one of the plurality of rules;

entering a desired data value for a selected one of the plurality of parameters of an associated element of the low pressure compressor rotor;

comparing the entered desired data value for the selected one of the plurality of parameters with the corresponding at least one data value in the knowledge base for the corresponding one of the plurality of rules;

if the result of the step of comparing is such that the entered desired data value for the selected one of the plurality of parameters is determined to have a first predetermined relationship with respect to the corresponding at least one data value in the knowledge base for the selected one of the plurality of rules, then creating a geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor;

analyzing the created geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor; and

performing a durability analysis on the created geometric representation of the selected one of the plurality of parameters of the associated elements of the low pressure compressor rotor.

Claim 20 (new) The method of claim **19**, wherein the step of creating a geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor further comprises the step of updating the model of the low pressure compressor rotor with the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor.

Claim 21 (new) The method of claim **19** wherein if the result of the step of comparing is such that the entered desired data value for the selected one of the plurality of parameters is determined to have a second predetermined relationship with respect to the corresponding at least one data value in the knowledge base for the selected one of the plurality of rules, then modifying the entered desired data value for the selected one of the plurality of parameters.

Claim 22 (new) The method of claim **21**, further comprising the steps of:

comparing the modified data value for the selected one of the plurality of parameters with the corresponding at

least one data value in the knowledge base for the corresponding one of the plurality of rules; and

if the result of the step of comparing is such that the modified data value for the selected one of the plurality of parameters is determined to be of the first predetermined relationship with respect to the corresponding at least one data value in the knowledge base for the corresponding one of the plurality of rules, then creating a geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor.

Claim 23 (new) The method of claim **19**, further comprising the step of storing the created knowledge base of information.

Claim 24 (new) The method of claim **19** further comprising the step of displaying the create geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor.

Claim 25 (new) The method of claim **19** wherein the associated elements of the low pressure compressor rotor include a plurality of axially spaced rings, the rings including spacer means for connecting and establishing the spacing between successive rings, successive rings being connected by welds in successive spacer means, and wherein the spacer means between the successive rings include a knife edge member, the knowledge base including rules for sizing the rings and for the placement of the welds relative to the knife edge members.

Claim 26 (new) The method of claim **19** wherein the step of creating the geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor further comprises the step of creating the model of the low pressure compressor rotor.

Claim 27 (new) The method of claim **19** wherein the at least one data value for some of the plurality of rules in the knowledge base comprises a numerical value.

Claim 28 (new) The method of claim **19** wherein the step of entering a desired data value for a selected one of the plurality of parameters of an associated element of the low pressure compressor rotor comprises the steps of:

making available at least one data value for each one of the plurality of parameters of the associated element of the low pressure compressor rotor; and

selecting a desired value for the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor from the at least one data value made available for each one of the plurality of parameters of the associated element of the low pressure compressor rotor.

Claim 29 (new) The method of claim **28** wherein the step of making available at least one data value for each one of the plurality of parameters of the associated element of the low pressure compressor rotor comprises the step of providing a visual display containing a graphic depiction of the at least one data value for each one of the

plurality of parameters of the associated element of the low pressure compressor rotor.

Claim 30 (new) The method of claim **19**, further comprising the step of providing a file listing of a selected one or more of the plurality of parameters of the associated elements of the low pressure compressor rotor, wherein the file listing includes at least one of the entered desired data values for each one of the corresponding plurality of parameters of the low pressure compressor rotor elements.

Claim 31 (new) A method of creating a model of a low pressure compressor rotor for a gas turbine engine, comprising the steps of:

creating a knowledge base of information having a plurality of rules with respect to a corresponding plurality of parameters of associated elements of the low pressure compressor rotor, wherein the knowledge base comprises at least one data value for each one of the plurality of rules;

entering a desired data value for a selected one of the plurality of parameters of an associated element of the low pressure compressor rotor;

comparing the entered desired data value for the selected one of the plurality of parameters with the corresponding at least one data value in the knowledge base for the corresponding one of the plurality of rules;

if the result of the step of comparing is such that the entered desired data value for the selected one of the plurality of parameters is determined to have a first predetermined relationship with respect to the

corresponding at least one data value in the knowledge base for the selected one of the plurality of rules, then creating a geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor; and

providing a file listing of a selected one or more of the plurality of parameters of the associated elements of the low pressure compressor rotor, wherein the file listing includes at least one of the entered desired data values for each one of the corresponding plurality of parameters of the low pressure compressor rotor elements.

Claim 32 (new) The method of claim **31** wherein the step of providing a file listing of a selected one or more of the plurality of parameters of the associated elements of the low pressure compressor rotor further comprises the step of providing the file listing as an output from a knowledge base engineering system.

Claim 33 (new) The method of claim **32** wherein the step of providing the file listing of a selected one or more of the plurality of parameters of the associated elements of the low pressure compressor rotor as an output from a knowledge-based system further comprises the step of providing the file listing as an input file to a computer program for controlling parametric models of the design of the tooling for the manufacture of the low pressure compressor rotor.

Claim 34 (new) The method of claim **31** wherein the associated elements of the low pressure compressor rotor include a plurality of axially spaced rings, the rings including spacer means for connecting and establishing the spacing between successive rings, successive rings being connected by welds in successive spacer means, and wherein the spacer means between the successive rings include a knife edge member, the knowledge base including rules for sizing the rings and for the placement of the welds relative to the knife edge members.

Claim 35 (new) The method of claim **31**, wherein the step of creating a geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor further comprises the step of updating the model of the low pressure compressor rotor with the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor.

Claim 36 (new) The method of claim **31** wherein if the result of the step of comparing is such that the entered desired data value for the selected one of the plurality of parameters is determined to have a second predetermined relationship with respect to the corresponding at least one data value in the knowledge base for the selected one of the plurality of rules, then modifying the entered desired data value for the selected one of the plurality of parameters.

Claim 37 (new) The method of claim **36**, further comprising the steps of:

comparing the modified data value for the selected one of the plurality of parameters with the corresponding at least one data value in the knowledge base for the corresponding one of the plurality of rules; and

if the result of the step of comparing is such that the modified data value for the selected one of the plurality of parameters is determined to be of the first predetermined relationship with respect to the corresponding at least one data value in the knowledge base for the corresponding one of the plurality of rules, then creating a geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor.

Claim 38 (new) A method of creating a model of a low pressure compressor rotor for a gas turbine engine, comprising the steps of:

creating a knowledge base of information having a plurality of rules with respect to a corresponding plurality of parameters of associated elements of the low pressure compressor rotor, the associated elements including a plurality of axially spaced rings, the rings including spacer means for connecting and establishing the spacing between successive rings, successive rings being connected by welds in successive spacer means, and wherein the spacer means between the successive rings include a knife edge member, the knowledge base including rules for sizing the rings and for the placement of the welds relative to the knife edge members, wherein the

knowledge base comprises at least one data value for each one of the plurality of rules;

entering a desired data value for a selected one of the plurality of parameters of an associated element of the low pressure compressor rotor;

comparing the entered desired data value for the selected one of the plurality of parameters with the corresponding at least one data value in the knowledge base for the corresponding one of the plurality of rules; and

if the result of the step of comparing is such that the entered desired data value for the selected one of the plurality of parameters is determined to have a first predetermined relationship with respect to the corresponding at least one data value in the knowledge base for the selected one of the plurality of rules, then creating a geometric representation of the selected one of the plurality of parameters of the associated element of the low pressure compressor rotor.